

Remarks

In the present Amendment, claim 1 is amended, claim 8 is canceled, and claim 10 is new. Thus, upon entry of this Amendment, claims 1-7, 9 and 10 are pending. No new matter has been added. Support for the amendment can be found throughout the specification and claims as filed, including, e.g., in previously presented claims 1-9, and in the specification on page 3, paragraph [0045]. With this amendment, reconsideration and withdrawal of the rejections made therein are respectfully requested in view of the following remarks.

Formal Matters

Applicants note with appreciation that the Office has withdrawn the 35 U.S.C. § 112, second paragraph rejection.

Claim Rejections under 35 U.S.C. § 103

The Action rejects claims 1-4 and 7 under 35 U.S.C. § 103 as allegedly unpatentable over Park et al. (U.S. Patent No. 5,460,818) in view of Tanaka (U.S. Patent No. 4,438,058) and Taub et al. (U.S. Patent No. 3,900,433). The Action rejects claims 5 and 6 under 35 U.S.C. § 103 as allegedly unpatentable over Park et al. in view of Tanaka and Taub et al., and further in view of Henn et al. (U.S. Patent No. 5,563,178). The Action also rejects claims 8 and 9 under 35 U.S.C. § 103 as allegedly unpatentable over Park et al. in view of Tanaka and Taub et al., and further in view of Bass et al. (U.S. Patent No. 6,057,376).

Applicants respectfully disagree with the Action's determination regarding obviousness. Applicants submit that a *prima facie* case of obviousness has not been established, particularly because the Office failed to show (1) that the combination of documents teaches or suggests

every element of the claims and (2) a reason to modify the documents' teachings to arrive at the claimed invention.

The Cited Documents Fails to Teach or Suggest the Elements of the Claims

Applicants submit that the cited documents, alone or in combination, fail to teach or suggest all the elements of the present invention. In particular, Applicants submit that the cited documents do not teach or suggest, at least, "a method for producing expandable styrene-modified olefin-based resin beads comprising steps of impregnating styrene-modified olefin-based resin beads with an easily volatile blowing agent to obtain expandable resin beads, and impregnating 100 parts by weight of the expandable resin beads with 0.1 to 2.0 parts by weight of a surfactant at a temperature of 10 to 30°C and a pressure of 0.05 to 0.30 MPa, to obtain expandable styrene-modified olefin-based resin beads, and wherein the surfactant is represented by the following general formula (1): $[(R1)_4N]^+C_2H_5OSO_3^-$, and R1 is the same or different, and optionally branched alkyl group of a carbon atom number of 1 to 17."

Applicants note that one claimed feature of the present invention is that the expandable resin beads are impregnated with a specific amount of a specific surfactant under specific conditions (e.g. temperature, pressure, and time surfactant is added). As a result of this feature, the claimed invention can provide expandable styrene-modified olefin-based resin beads that have excellent antistatic properties (Specification, page 1, paragraph [0009]).

Applicants further note that the cited documents Park et al., Taub et al., and Henn et al. fail to use any surfactant with regard to producing expandable styrene-modified olefin-based resins as recited in the claims, and obviously do not disclose the surfactant recited in the claimed invention. Applicants also note that Tanaka also fails to teach the specific surfactant recited in

the claims, and all the documents, Park et al., Taub et al., Tanaka, Henn et al., and Bass et al., fail to teach adding the surfactant *after* impregnating the beads with the blowing agent.

The Action further asserts that Tanaka teaches the use of resins other than styrene (Office Action, page 8). In response, Applicants note that Tanaka merely describes that other resins can be used, generally, and Tanaka does not specify a particular kind of resin that can be used. Applicants submit that the recognition by the Examiner that Tanaka describes the use of resins other than styrene is unreasonable, as that recognition is only based on the general statement made in the disclosure of Tanaka.

Applicants submit that the cited documents, alone or in combination, do not teach all the elements of the claimed invention; therefore, a *prima facie* case of obviousness has not been established.

There is No Reason to Modify or combine the Documents' Teachings

Applicants respectfully submit that there is no reason to modify or combine the cited documents' teachings. In rejecting the claims of the present invention, the Action relies on five different documents. Applicants note that the Action's stated motivations do not "prompt a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does," as required in an obviousness determination (*Takeda Chemical Industries, Ltd. v. Alphapharm Pty., Ltd.*, 492 F.3d 1350, 1356-1357 (Fed. Cir. 2007) (quoting *KSR International Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1731 (2007))).

The Action states that the motivation to combine Park et al., Tanaka, and Taub et al. is that "doing so allows the beads to be impregnated with the blowing agent (expanding agent) and the surfactant at a temperature below the activation temperature of the blowing agent in a single

mixing step” (Office Action, page 3-4). Applicants note that the Action’s stated motivation is not a motivation, but rather, an alleged result of the combination (i.e. allowing a bead to be impregnated with the blowing agent and the surfactant).

Applicants also note that the Action does not provide support from Park et al., Tanaka or Taub et al. to show which document indicates the motivation to combine the documents. In fact, as discussed above, Park et al. and Taub et al. do not discuss the use of a surfactant and Tanaka does not teach the claimed surfactant. Further, Applicants note that Park et al., Tanaka, and Taub et al. do not disclose any need or benefit in *impregnating the beads with a blowing agent and use of a surfactant in any particular conditions*. Even the rationale to combine the documents, as stated on page 3 of the Office Action, where the use a surfactant in 0.5-2.0 parts by weight of the bead would be obvious because Tanaka teaches using 2% by weight, would not have motivated a person of skill in the art to combine Park et al., Tanaka, and Taub et al.

Applicants further note that Bass et al. is cited by the Action to remedy the remaining deficiencies of the cited documents. Applicants submit that Bass et al. fails to remedy the remaining deficiencies of the cited art. Although Bass et al. teaches that in the equation $R-X(=O)-O-$ (as recited in the equation in column 5, lines 10-15), R is an oil soluble hydrocarbon, there is no suggestion in Bass et al., or any of the other cited documents, to select the specific group of an ethoxy.

Applicants note that the failure to provide a reason to combine at least Park et al., Tanaka, and Taub et al., results in the failure to establish a *prima facie* case of obviousness. Applicants submit that even if, *arguendo*, all five documents were combined, the cited documents do not teach or suggest all the elements of the present invention.

Applicants respectfully submit that a *prima facie* case of obviousness has not been established, particularly because the Office fails to show (1) that the combination of documents teaches or suggests every element of the claims and (2) a reason to modify the documents' teachings to arrive at the claimed invention.

Moreover, Applicants submit that one having ordinary skill in the art would not have modified the teachings of the cited documents in the manner asserted in the obviousness rejection. In this regard, Applicants submit that the obviousness rejection employs improper hindsight based upon Applicants' disclosure in an attempt to arrive at Applicants' claimed subject matter. However, one having ordinary skill in the art would not have arrived at Applicants' claimed subject matter at least for the reasons set forth above.

In view of the foregoing, Applicants respectfully request withdrawal of the outstanding rejections of claims 1-7 and 9, under 35 U.S.C. § 103, and, at least for the reasons set forth above, newly-added claim 10 should be allowed as well.

Claim Rejections – 35 U.S.C. § 112, second paragraph

The Action rejects claim 8 under 35 U.S.C. § 112, second paragraph, for allegedly being indefinite for omitting essential elements, i.e. the limiting of the R1 group in the chemical structure.

In response, and without acquiescing to the propriety of the rejection, Applicants note that claim 8 has been canceled. Applicants note that the elements of claim 8 have been incorporated into claim 1, and the R1 group chemical structure recited in claim 1, includes language that further clarifies its structure. Applicants submit that the amendment is responsive to the rejection.

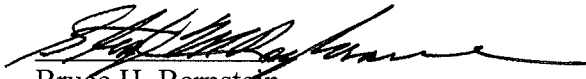
In view of the amendment to the claims, Applicants respectfully request withdrawal of the rejection under 35 U.S.C. § 112, second paragraph.

CONCLUSION

In view of the foregoing, the Office is respectfully requested to withdraw the rejections of record and allow all the pending claims.

Applicants respectfully invite the Examiner to contact the undersigned with any questions.

Respectfully Submitted,
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